

**INVENTORY OF STATE-LISTED RARE THREATENED, AND ENDANGERED
SPECIES ON TRANSMISSION CORRIDORS
ASSOCIATED WITH THE V. C. SUMMER PROJECT**



Sweet grass (*Muhlenbergia capillaris*) in the VCS-St. George #1 and #2 Corridor.

by

L. L. Gaddy, terra incognita and J. Robert Siler, Environmental Resources of the Carolinas

for
Pike Electric Corporation
Charlotte, North Carolina

November 2010

INTRODUCTION

This report presents the findings of an inventory of state-listed endangered, threatened, and candidate species on existing and proposed transmission corridors associated with South Carolina Electric and Gas's V. C. Summer Project. The transmission corridors or "study area" for this investigation included the VCS-Killian #1 (existing and new), the VCS-St. George #1, the VCS-St. George #1 and Lake Murray #2, and the VCS-St. George #1 and #2 (see Map 1).

METHODOLOGY

A literature and internet review of the state-listed species potentially-occurring in the study areas for electric power transmission lines associated with the V. C. Summer Project was conducted in October of 2010. Over 170 species of state-listed plants and animals are known from the seven counties through which the V. C. Summer Project corridors pass (see Table 2 in Appendix for a complete list of these species). Of these 170 species, 41 species are known to occur within five miles of the V. C. Summer Project corridors (Table 1 below). Because potential habitat for only 17 of these 41 species occurs on the V. C. Summer corridors, field searches concentrated on these 17 species.

Before fieldwork for this inventory began, all South Carolina Department of Natural Resources Department records—historical and current—for these 17 species (S. C. Department of Natural Resources, 2010) were plotted on maps of the transmission corridors in the study area. According to these records, at the time this field inventory began, none of these species was known to occur within or along the margins of any of the transmission corridors in the study area.

Potential habitats for these state-listed species were also plotted on study area maps before fieldwork began. These potential habitats maps were compiled using natural color imagery of the study area with topographic, soil, and wetland features overlaid on the natural color imagery. Over fifty field sites harboring potential habitat for the species in Table 1 were field-checked in late October and early November of 2010.

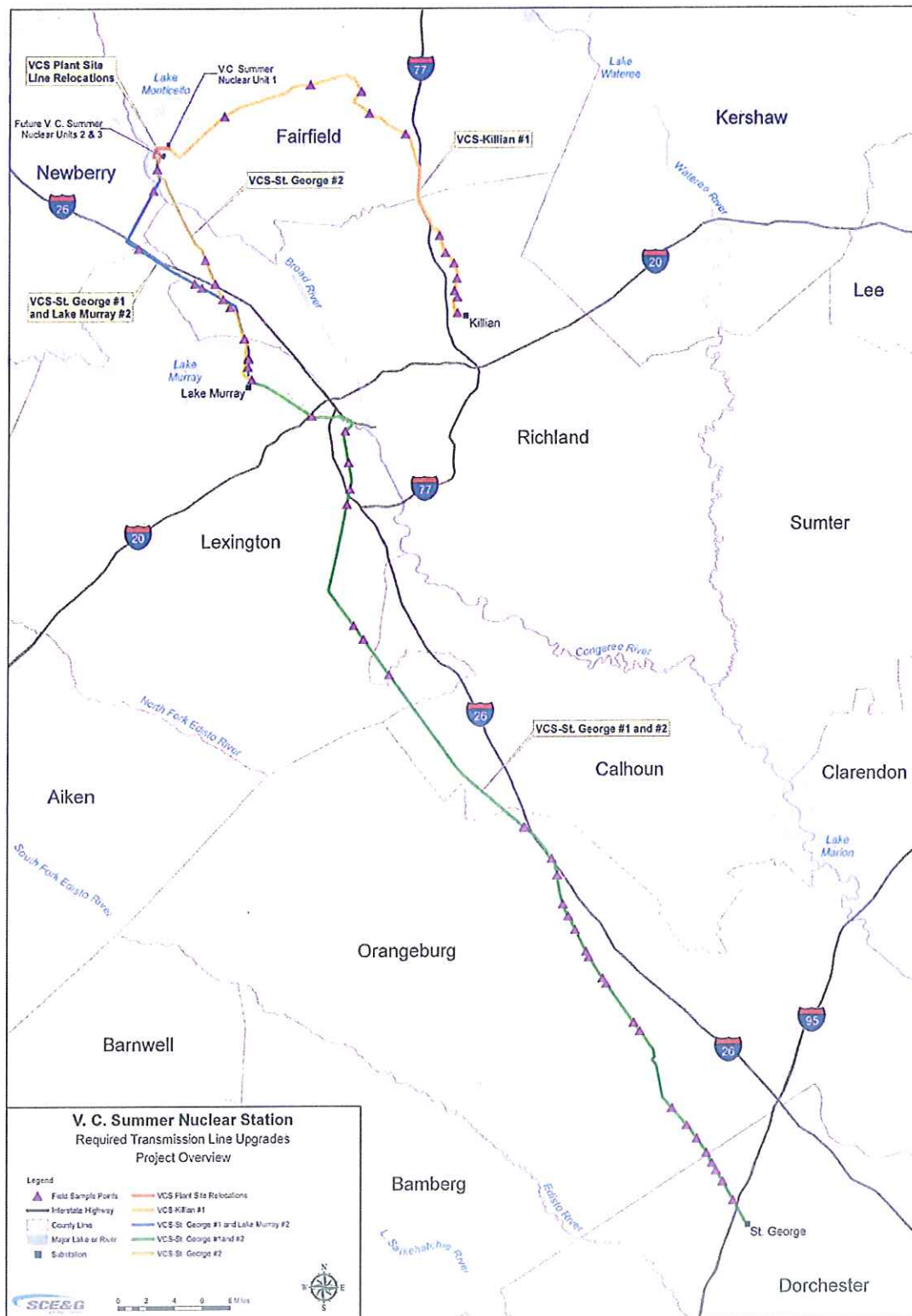


Table 1. State-listed rare, threatened, and endangered species known to occur within five miles of transmission corridors associated with the V. C. Summer Project*

Scientific Name	Common Name	State Status/ Rank	CAL	DOR	FAI	LEX	NEW	ORA	RIC	Habitat Present on Corridors?
<i>Astragalus michauxii</i>	Sandhill milkpea	S3							X	NO
<i>Botrychium lunarioides</i>	winter grape-fern	S1							X	NO
<i>Burmania biflora</i>	northern blue-thread	S2				X			X	YES
<i>Coreopsis gladiata</i>	southeastern tickseed	SNR		X		X			X	YES
<i>Etheostoma collis</i>	Carolina darter	ST/SNR							X	NO
<i>Euonymus atropurpureus</i>	eastern wahoo	S1					X			NO
<i>Fraseria carolinensis</i>	colombo	S2			X		X			YES
<i>Fundulus diaphanus</i>	Banded Killifish	S1							X	NO
<i>Hyla andersoni</i>	Pine-barrens Treefrog	ST/S2S3							X	YES
<i>Hymenocallis coronaria</i>	shoals spider-lily	S2					X		X	NO
<i>Hypericum nitidum</i>	Carolina St. John's-wort	S1							X	YES SEE TEXT
<i>Ipomopsis rubra</i>	red standing-cypress	S2	X						X	NO
<i>Isoetes piedmontana</i>	Piedmont quillwort	S2			X					NO
<i>Lechea torreyi</i>	Torrey's pinweed	SNR							X	NO
<i>Liparis lilifolia</i>	lily-leaved twayblade	S1					X			NO
<i>Litsea aestivalis</i>	pond spice	S3						X		YES
<i>Ludwigia spathulata</i>	spatulate seedbox	S3							X	NO
<i>Lycopus cokeri</i>	Carolina bugleweed	S2	X			X			X	YES
<i>Magnolia pyramida</i>	pyramid magnolia	S1	X				X		X	NO
<i>Menispermum canadense</i>	Canada moonseed	S2S3	X	X			X			NO
<i>Minuartia uniflora</i>	single-flowered stichwort	S3			X					NO
<i>Nestronia umbellula</i>	Indian olive	S3	X						X	NO
<i>Nolina georgiana</i>	Georgia beargrass	S3						X	X	YES
<i>Notropis chiliticus</i>	Red-lipped Shiner	S1?							X	NO
<i>Oxypolis ternata</i>	savannah cowbane	S1				X				YES
<i>Pityopsis pinifolia</i>	pine-leaved golden aster	S2				X			X	YES
<i>Psilotum nudum</i>	whisk fern	S1							X	NO

Scientific Name	Common Name	Status/ Rank	CAL	DOR	FAI	LEX	NEW	ORA	RIC	Habitat Present on Corridors?
<u>Rhinichthys</u> <u>atratus</u>	Black-nosed Dace	S1							X	NO
<i>Rhododendron</i> <i>eastmanii</i>	May white	S1	X		X		X		X	NO
<i>Rorippa</i> <i>sessiliflora</i>	stalkless yellowcress	SNR				X				NO
<i>Sarracenia rubra</i>	sweet pitcher- plant	S4							X	YES
<u>Sciurus niger</u>	Eastern Fox Squirrel	S4	X					X	X	YES
<i>Scleria baldwinii</i>	Baldwin's nutrush	S2						X		YES
<i>Scutellaria parvula</i>	dwarf skullcap	S2S3			X					NO
<i>Sedum pusillum</i>	granite rock stonecrop	S2			X					NO
<i>Sporobolus</i> <i>teretifolius</i>	wire-leaved dropseed	S1				X				YES
<i>Stylisma</i> <i>pickeringii</i> var. <i>pickeringii</i>	Pickering's morning-glory	S2				X				NO
<i>Symphotrichum</i> <i>georgianum</i>	Georgia aster	C/SNR			X				X	YES
<i>Tofieldia glabra</i>	white false- asphodel	S1S2							X	YES
<i>Tridens</i> <i>carolinianus</i>	Carolina fluff grass	S2				X		X		YES

* According to element occurrence records from the South Carolina Department of Natural Resources Department's geographic database (S. C. Department of Natural Resources, 2010).

Underlining indicates animal species.

C-federal candidate for listing; SE-endangered statewide; ST-threatened statewide; S1-critically imperiled statewide; S2-imperiled statewide; S3-vulnerable statewide; S4-secure statewide; SNR-species not ranked.

Bold indicates found in transmission corridor during this inventory.

FINDINGS

Thirty-three sites in Calhoun, Fairfield, Newberry, Lexington, and Richland Counties were visited in late October of 2010, and 20 additional sites in Orangeburg and Dorchester Counties were field-checked in early November of 2010. Only one state-listed species was found in the study corridors—Carolina St. Johns-wort (*Hypericum nitidum*), which was found in the VCS-St. George #1 and #2 in Lexington County. The species discussed below are the species for which habitat existed on the V. C. Summer corridors (Table 1).

***Burmannia biflora* (northern blue-thread).** Northern blue-thread is a diminutive (usually less than four inches tall) herb found in open bogs. According to the South Carolina Department of Natural Resources, it is ranked as “imperiled” in S. C. (S2, see Table 1). The plant is known from 13 counties in South Carolina, including Richland and Lexington (S. C. Plant Atlas, 2010). It has been found in a seepage bog less than one mile from the VCS-St. George #1 and #2 corridor in Lexington County. It was not found during searches of wetlands in the corridor in Richland, Lexington, Calhoun, Orangeburg, and Dorchester Counties.

***Coreopsis gladiata* (southeastern tickseed).** Known from 21 counties in South Carolina, southeastern tickseed is listed as rare in S. C. but is not ranked (Table 1). It is known from a bog in Lexington County less than a mile from VCS-St. George #1 and #2, but it was not seen in or adjacent to the corridor itself.

***Frasera carolinensis*=*Swertia carolinensis* (colombo).** Colombo is a tall herb with a large basal rosette found in nutrient-rich woods and the margins of woods. In South Carolina, it is known only from five counties (S. C. Plant Atlas, 2010) and is ranked as “imperiled” (S2) in the state. It is known from one location in Newberry County near the VCS-St. George #1 and Lake Murray #2 corridor and one location in Fairfield County just off the VCS-St. George #2 corridor. Rich woods along the edges of both corridors near the two populations were searched, but no plants of this species could be found in the corridors or in the adjacent woods.

***Hyla andersonii* (Pine-barrens Treefrog).** The Pine-barrens Treefrog is listed as “threatened” in South Carolina by the S. C. Department of Natural Resources (Table 1). It is known from two historic locations approximately three miles east and one-half mile west of the VCS-Killian #1 corridor. The frog’s preferred habitat is open bogs with shrubby margins. Marginal habitat for the species was seen along the existing corridor just north of the Killian Substation. The treefrog was not seen or heard in or along the corridor.

***Hypericum nitidum* (Carolina St. Johns-wort).** Carolina St. Johns-wort is a colonial shrub known from five counties in South Carolina and is ranked S1 or critically imperiled in the state (S. C. Plant Atlas, 2010; SCDNR, 2010). It was known to occur in a seepage bog less than one mile from the VCS-St. George #1 and #2 corridor. In late October, two colonies of Carolina St. Johns-wort were found in the corridor of VCS-St. George #1 and #2 just before its crossing of Congaree Creek in Lexington County. One colony at N3355.8338/W08105.2734 had approximately 75 plants that covered 125 square feet; the second colony at N335.9321/W08105.2678 had 20 plants and covered 50 square feet. Companion plants here were: *Erianthus giganteus* (giant plumegrass), *Solidago rugosa* (rough goldenrod), *Rhexia virginica* (Virginia meadowbeauty), and *Juncus effusus* (soft rush).



The rare Carolina St. Johns-wort, found on VCS-St. George #1 and #2 corridor in Lexington County, is a woody shrub with narrow, needle-like leaves.

***Litsea aestivalis* (pond spice).** Pond spice is a shrub that grows along the margins of isolated wetlands. It is ranked as “vulnerable” (S3) in South Carolina (Table 1) and is known from eleven counties in South Carolina, including Orangeburg and Dorchester (S. C. Plant Atlas, 2010). Two populations of pond spice are known in southern Orangeburg County just southwest of the VCS-St. George #1 and #2 corridor. No plants of this species were found during searches of the margins of wetlands along the corridor in Orangeburg and Dorchester Counties.

***Lycopus cokeri* (Carolina bugleweed).** Carolina bugleweed is a small herb found in seven Sandhill counties in South Carolina (S. C. Plant Atlas, 2010). A North Carolina-South Carolina endemic, it is ranked as “imperiled” (S2) in South Carolina (SCDNR, 2010). It is known from a population in Lexington County less than one mile from the VCS-St. George #1 and #2 corridor. Open boggy areas in northern Richland County and in southern Lexington and Calhoun Counties were searched for the plant. No plants of this species, however, could be found on or along the corridors.

***Nolina georgiana* (Georgia beargrass).** Georgia beargrass is a lilaceous plant that reaches the northern limits of its range in South Carolina. In South Carolina, it is ranked as “vulnerable” (S3) statewide and is known from seven counties. In Lexington County, a population of the plant is known to occur less than one mile northeast of the VCS-St. George #1 and #2 corridor in open, longleaf pine (*Pinus palustris*) woodlands. This habitat type was searched in Lexington and Calhoun Counties, but the plant was not found on or adjacent to the corridor.

***Oxypolis ternata* (savannah cowbane).** The savannah cowbane is ranked as “critically imperiled” (S1) in South Carolina (SCDNR, 2010). It is an apiaceous plant known from eight counties in South Carolina, including Lexington County (S. C. Plant Atlas, 2010). It is known from a seepage bog in Lexington County east of the VCS-St. George #1 and #2 corridor. It requires fire and does not compete well with densely-growing grasses. Searches were conducted in Richland, Lexington, and Calhoun Counties, along the V. C. Summer Project corridors for the species, but no plants were found.

***Pityopsis pinifolia* (pine-leaved golden aster).** Pine-leaved golden aster is an October-blooming yellow composite known from only four counties in South Carolina (S. C. Plant Atlas, 2010). It is ranked as “imperiled” (S2) in the state (SCDNR, 2010). It is often found along roads and in partially-disturbed areas. Several populations of the plant are known from within five miles of the VCS-St. George #1 and #2 corridor in Lexington and Calhoun Counties. No plants, however, were found in the corridor there or along its margins.

***Sarracenia rubra* (sweet pitcher-plant).** Sweet pitcher-plant is an herbaceous plant that grows in non-forested boggy environments. It is known from 15 counties in South Carolina (S. C. Plant Atlas, 2010) and is ranked as “secure” (S4) statewide by SCDNR (2010). It has been found in a bog less than one mile east of the VCS-St. George #1 and #2 corridor in Lexington County. Field searches for the pitcher-plant were carried out in Richland, Lexington, and Calhoun Counties. Good habitat for the plant was found near the Killian Substation on VCS-Killian #1 and around Congaree Creek on VCS-St. George #1 and #2, but no plants of this species were found there.

***Sciurus niger* (Eastern Fox Squirrel).** The Eastern Fox Squirrel is a large, melanistic rodent that inhabits pine and pine-mixed hardwood forests. It is found primarily in the Coastal Plain of South Carolina and is ranked as “secure” (S4) statewide by SCDNR (2010). Although there are records of the squirrel near the corridors, the squirrel was not seen in or adjacent to the corridors. No special studies were conducted to determine its status along the corridors.

***Scleria baldwinii* (Baldwin’s nutrush).** Baldwin’s nutrush is a tall sedge found in wet pine and pond cypress savannahs in the Coastal Plain. It is known from 10 counties in the state (S. C. Plant Atlas) and is ranked as “imperiled” (S2) in South Carolina, according to SCDNR (2010). A population of the plant is known from a pond cypress savannah approximately a mile southeast of the VCS-St. George #1 and #2 corridor near Bowman in Orangeburg County. Several pond cypress savannahs along the transmission corridor in Orangeburg and Dorchester County were searched for the nutrush, but the plant was not found in or adjacent to the corridor.

***Sporobolus teretifolius* (wire-leaved dropseed).** Wire-leaved dropseed is a grass that is found in wet savannahs and bogs in only four counties in South Carolina (S. C. Plant Atlas, 2010). Ranked as “critically imperiled” (S1) in the state, it is known from a bog in Lexington County less than one mile from the VCS-St. George #1 and #2 corridor. Bog and wet savannah habitats in and along the corridors in Richland, Lexington, Calhoun, Orangeburg, and Dorchester Counties were searched, but the rare grass could not be found.

***Symphyotrichum georgianum*=*Aster georgianus* (Georgia aster).** Georgia aster occurs in the Piedmont of the Carolinas on xeric, calcareous red clay soils. It was probably found in open post oak (*Quercus stellata*) savannahs in the pre-Columbian Piedmont, but now is primarily found on roadsides and in railroad and power line rights-of-way. In South Carolina, it is known from nine counties (S. C. Plant Atlas, 2010) and is not ranked (SNR); however, it is a candidate for listing by the Fish and Wildlife Service (U. S. Department of the Interior, 2010). Because the VCS-Killian #1 transmission corridor passes within a mile of a known Georgia aster population in Fairfield County, four nearby sites where the VCS-Killian #1 corridor crosses roads and railroad rights-of-way were field-checked for the possible presence of the aster. Three of the four sites had recently been mowed close to the ground and were dominated by fescue (*Lolium pratense*) and Bahia grass (*Paspalum notatum*). Piedmont aster (*Symphyotrichum patens*=*Aster patens*) was present at two of the sites along the woodland margins of the corridor, but no Georgia asters were seen.

Tofieldia glabra (white false-asphodel). White false-asphodel grows in bogs and wet savannahs and is known from seven counties in South Carolina (S. C. Plant Atlas, 2010). It is ranked “critically imperiled/imperiled” (S1S2) statewide and is found in Richland and Lexington Counties (SCDNR, 2010). It has been reported from a seepage bog less than a mile from the VCS-St. George #1 and #2 corridor. Marginal habitat for the plant was found along the corridor in Lexington County, but no plants were seen.

Tridens carolinianus (Carolina fluff grass). Carolina fluff grass grows in moist depressions and bog margins in eight South Carolina counties (S. C. Plant Atlas, 2010). It is ranked as “imperiled” (S2) in the state. It is known from bogs in Lexington County, one of which is less than a mile from the VCS-St. George #1 and #2 corridor. Wetland sites in Richland, Lexington, and Calhoun Counties were searched for the plant, but it could not be found.

References/Sources

- Gaddy, L. L. 2006. The status of pond cypress (*Taxodium ascendens*)-dominated wetlands associated with Canby's dropwort (*Oxypolis canbyi*) in North Carolina, South Carolina, and Georgia. Final Report, Award No. 401816M319, Fish and Wildlife Service, Charleston, SC, 16 p. + tables and maps.
- Lawrence, C. B. 1976. Soil Survey of Lexington County, South Carolina. US Department of Agriculture, Soil Conservation Service.
- Lawrence, C. B. 1978. Soil Survey of Richland County, South Carolina. US Department of Agriculture, Soil Conservation Service.
- Radford, A. E., H. E. Ahles, and C. R. Bell. 1968. Manual of the vascular flora of the Carolinas. University of North Carolina Press, Chapel Hill. 1184 p.
- Russo, M. and J.M. Sweeney. 2000. Threatened and endangered species in forests of North Carolina; a guide to assist with forestry activities. International Paper Company.
- Schafale, M. P. and A. S. Weakley. 1990. Classification of the natural communities of North Carolina, third approximation. NC Natural Heritage Program, NC Department of Environment, Health, and Natural Resources, Raleigh, NC.
- South Carolina Department of Natural Resources. 2010. www.dnr.sc.gov/species/index.html.
- South Carolina Plant Atlas. 2010. <http://cricket.biol.sc.edu/acmoore/scplantatlas.html>.
- U. S. Department of the Interior. Fish and Wildlife Service. 2010. Species profile of Georgia aster (*Symphyotrichum georgianum*). <http://www.fws.gov/eco/ajax/speciesProfile/profile/speciesProfile.action?scode=Q2Z5#candidate>.
- Weakley, A. S. 2010. Flora of the southern and mid-Atlantic States. www.herbarium.nc.edu/flora.htm.

APPENDIX

Table 2. State-listed rare, threatened, and endangered species known from V. C. Summer Project corridor study area counties.*

Scientific Name	Common Name	State Status/ Rank	CAL	DOR	FAI	LEX	NEW	ORA	RIC
<i>Agalinis tenella</i>	false-foxglove	SNR		X					X
<i>Agrimonia incisa</i>	incised groovebur	S2						X	
<i>Amphicarpum muehlenbergianum</i>	blue maiden-cane	S2S3						X	
<i>Andropogon gyrans</i> var. <i>stenophyllus</i>	Elliott's bluestem	S1				X			
<i>Andropogon perangustatus</i>	narrow-leaved bluestem	S1							X
<i>Aristida condensata</i>	Piedmont three-awned grass	S2	X			X		X	X
<i>Asplenium heteroresiliens</i>	Wagner's spleenwort	S1							X
<i>Asplenium pinnatifidum</i>	lobed spleenwort	S1				X			
<i>Asplenium resiliens</i>	black-stemmed spleenwort	S1		X				X	
<i>Aster elliotii</i>	Elliott's aster	S3							X
<i>Astragalus michauxii</i>	sandhill milkpea	S3							X
<i>Bacopa cyclophylla</i>	Coastal Plain water-hyssop	S1						X	
<i>Balduina atropurpurea</i>	purple balduina	S1							X
<i>Botrychium lunarioides</i>	winter grape-fern	S1							X
<i>Burmania biflora</i>	northern blue-thread	S2				X			X
<i>Calamovilfa brevipilis</i>	pine-barrens reed-grass	S1							X
<i>Campanulastrum americanum</i>	tall bellflower	S1	X						
<i>Carex amphibola</i>	narrow-leaved sedge	SNR						X	
<i>Carex basiantha</i>	widow sedge	S2	X	X				X	
<i>Carex cherokeensis</i>	Cherokee sedge	S2		X					X
<i>Carex collinsii</i>	Collin's sedge	S2				X			X
<i>Carex crus-corvi</i>	ravensfoot sedge	S2							X
<i>Carex decomposita</i>	cypress-knee sedge	S2						X	
<i>Carex elliotii</i>	Elliott's sedge	S1							X
<i>Carex granularis</i>	meadow sedge	S2		X				X	
<i>Carex oligocarpa</i>	eastern few-fruited sedge	SNR		X	X				
<i>Carex socialis</i>	social sedge	S1							X
<i>Cayaponia quinqueloba</i>	climbing cucumber vine	S1?							X
<i>Chrysoma pauciflosculosa</i>	woody goldenrod	S1S2				X			
<i>Clemmys guttata</i>	Spotted Turtle	ST/S5		X					
<i>Collinsonia serotina</i>	Walter's horsebalm	S1							X
<i>Condylura cristata</i>	Star-nosed Mole	S3?							X
<i>Coreopsis gladiata</i>	southeastern tickseed	SNR		X		X			X
<i>Corynorhinus rafinesquii</i>	Rafinesque's Big-eared Bat	SE/S2?						X	X

Scientific Name	Common Name	Status/ Rank	CAL	DOR	FAI	LEX	NEW	ORA	RIC
<i>Dirca palustris</i>	eastern leatherwood	S2			X				
<i>Dodecatheon meadia</i>	shooting-star	S1?	X		X				
<i>Distocambarus youngineri</i>	a crayfish	S1					X		
<i>Dryopteris carthusiana</i>	spinulose shield fern	S1							X
<i>Elanoides forficatus</i>	Swallow-tailed Kite	SE/S2		X					
<i>Eleocharis robbinsii</i>	Robbins' spikerush	S2							X
<i>Eleocharis vivipara</i>	viviparous spike-rush	S1		X					
<i>Elimia catenaria</i>	Gravel Elimia	SNR							X
<i>Elliptio congaraea</i>	Carolina Slabshell	S3						X	
<i>Elliptio lanceolata</i>	yellow lance	SNR					X		
<i>Epidendrum canopseum</i>	green-fly orchid	S3		X					
<i>Etheostoma collis</i>	Carolina darter	ST/SNR							X
<i>Euonymus atropurpureus</i>	eastern wahoo	S1					X		
<i>Eupatorium fistulosum</i>	hollow Joe-pye weed	SNR					X		
<i>Frasera carolinensis</i>	colombo	S2			X		X		
<i>Fundulus diaphanus</i>	Banded Killifish	S1							X
<i>Gaylussacia mosieri</i>	wooly huckleberry	S1				X			
<i>Gopherus polyphemus</i>	Gopher Tortoise	SE/S1		X					
<i>Helenium pinnatifidum</i>	Southeastern sneezeweed	S2						X	
<i>Heteranthera reniformis</i>	kidney-leaved mud-plantain	S1	X				X		
<i>Heterodon simus</i>	Southern Hog-nosed Snake	SNR							X
<i>Hyla andersoni</i>	Pine-barrens Treefrog	ST/S2/S3							X
<i>Hymenocallis coronaria</i>	shoals spider-lily	S2					X		X
<i>Hypericum adpressum</i>	creeping St. John's-wort	S2							X
<i>Hypericum nitidum</i>	Carolina St. John's-wort	S1							X
<i>Ilex amelanchar</i>	sarvis holly	S3		X				X	X
<i>Ipomopsis rubra</i>	red standing-cypress	S2	X						X
<i>Isoetes piedmontana</i>	Piedmont quillwort	S2			X				
<i>Isoetes riparia</i>	river bank quillwort	S2						X	
<i>Juglans cinerea</i>	white walnut	S3					X		
<i>Juncus abortivus</i>	pine-barrens rush	SNR							X
<i>Lechea torreyi</i>	Torrey's pinweed	SNR							X
<i>Liatris microcephala</i>	small-headed gayfeather	S1					X		X
<i>Limothlypis swainsonii</i>	Swainson's Warbler	S4		X					
<i>Lindera subcoriacea</i>	bog spicebush	S3							X
<i>Liparis liliifolia</i>	lily-leaved twayblade	S1					X		
<i>Listera australis</i>	southern twayblade	S2		X					
<i>Litsea aestivalis</i>	pond spice	S3						X	
<i>Lobelia boykinii</i>	Boykin's lobelia	S3						X	
<i>Lobelia sp. 1 (batsoni)</i>	Batson's lobelia	SNR				X			

Scientific Name	Common Name	Status/ Rank	CAL	DOR	FAI	LEX	NEW	ORA	RIC
<i>Ludwigia spathulata</i>	spatulate seedbox	S3							X
<i>Lycopus cokeri</i>	Carolina bugleweed	S2	X			X			X
<i>Macbridea caroliniana</i>	bog mint	S3							X
<i>Magnolia macrophylla</i>	big-leaved magnolia	S1		X					X
<i>Magnolia pyramida</i>	pyramid magnolia	S1	X				X		X
<i>Melanthium virginicum</i>	Virginia bunchflower	S2	X						
<i>Menispermum canadense</i>	Canada moonseed	S2S3	X	X			X		
<i>Micrurus fulvius</i>	eastern coral snake	S2				X			
<i>Minuartia uniflora</i>	single-flowered stichwort	S3			X				
<i>Monotropa odorata</i>	sweet pinesap	S2					X		
<i>Myotis austroriparius</i>	Southeastern Bat	S1		X				X	
<i>Myriophyllum laxum</i>	loose watermilfoil	S2				X		X	X
<i>Narthecium americanum</i>	bog asphodel	C/SH		X					X
<i>Neotoma floridana floridana</i>	Eastern Woodrat	S3S4		X					
<i>Nestronia umbellula</i>	Indian olive	S3	X						X
<i>Nolina georgiana</i>	Georgia beargrass	S3						X	X
<i>Notropis chiliticus</i>	Red-lipped Shiner	S1?							X
<i>Ophioglossum vulgatum</i>	southern adder's-tongue fern	S2			X				X
<i>Osmorhiza claytonii</i>	sweet cicely	S2			X				
<i>Oxypolis ternata</i>	savannah cowbane	S1				X			
<i>Paspalum bifidum</i>	bead-grass	S2							X
<i>Philadelphus hirsutus</i>	hairy mock-orange	S2			X		X		
<i>Pilea fontana</i>	springs clearweed	SNR	X	X					
<i>Pituophis melanoleucus</i>	Pine or Gopher Snake	S3S4						X	
<i>Pityopsis pinifolia</i>	pine-leaved golden aster	S2				X			X
<i>Plagiochila sullivantii</i>	Sullivant's liverwort	SNR							X
<i>Plantago sparsiflora</i>	pineland plantain	S2		X				X	
<i>Platanthera lacera</i>	green fringed orchid	S2							X
<i>Polygala nana</i>	dwarf milkwort	S1				X			
<i>Ponthieva racemosa</i>	shadow-witch orchid	S2	X						
<i>Potamogeton confervoides</i>	algae-like pondweed	S1							X
<i>Potamogeton foliosus</i>	leafy pondweed	SNR						X	
<i>Prunus alabamensis</i>	Alabama black cherry	S1							X
<i>Pseudacris feriarum</i>	Upland Chorus Frog	S5	X						
<i>Pseudobranchius striatus</i>	Dwarf Siren	ST/S2						X	
<i>Psilotum nudum</i>	whisk fern	S1							X
<i>Pteroglossaspis ecristata</i>	spiked medusa	S2		X					X
<i>Pyganodon cataracta</i>	Eastern Floater	SNR						X	X
<i>Quercus oglethorpensis</i>	Oglethorpe's oak	S3							X
<i>Quercus similis</i>	bottomland post oak	S1						X	
<i>Rano capito</i>	Gopher Frog	SE/S1						X	

Scientific Name	Common Name	Status/ Rank	CAL	DOR	FAI	LEX	NEW	ORA	RIC
<i>Rhexia aristosa</i>	awned meadowbeauty	S3						X	X
<i>Rhinichthys atratulus</i>	Black-nosed Dace	S1							X
<i>Rhododendron eastmanii</i>	May white	S1	X		X		X		X
<i>Rhododendron flammeum</i>	Piedmont azalea	S3						X	
<i>Rhynchospora alba</i>	white beakrush	SX				X			
<i>Rhynchospora harperi</i>	Harper's beakrush	S1						X	
<i>Rhynchospora inundata</i>	drowned hornrush	S2?				X			X
<i>Rhynchospora leptocarpa</i>	narrow-fruited beakrush	S1				X			
<i>Rhynchospora macra</i>	large beakrush	S1							X
<i>Rhynchospora oligantha</i>	few-flowered beakrush	S2							X
<i>Rhynchospora pallida</i>	pale beakrush	S1							X
<i>Rhynchospora stenophylla</i>	Chapman's beakrush	S2				X			X
<i>Rhynchospora tracyi</i>	Tracy's beakrush	S3						X	
<i>Rorippa sessiliflora</i>	stalkless yellowcress	SNR				X			
<i>Sagittaria isoetiformis</i>	slender arrow-head	S3					X		
<i>Sarracenia rubra</i>	sweet pitcher-plant	S4							X
<i>Scirpus erimaniae</i>	sharp-scaled bulrush	SNR							X
<i>Scirpus etuberculatus</i>	Canby's bulrush	SNR							X
<i>Scirpus subterminalis</i>	water bulrush	SNR					X		
<i>Sciurus niger</i>	Eastern Fox Squirrel	S4	X					X	X
<i>Scleria baldwinii</i>	Baldwin's nutrush	S2						X	
<i>Scutellaria parvula</i>	dwarf skullcap	S2S3			X				
<i>Sedum pusillum</i>	granite rock stonecrop	S2			X				
<i>Seminatrix pygaea</i>	Black Swamp Snake	SNR				X			
<i>Spilogale putorius</i>	Eastern Spotted Skunk	S4							X
<i>Sporobolus teretifolius</i>	wire-leaved dropseed	S1				X			
<i>Sterna antillarum</i>	Least Tern	S3		X					
<i>Strophitus undulatus</i>	Creper	S2							X
<i>Stylisma pickeringii</i> var. <i>pickeringii</i>	Pickering's morning-glory	S2				X			
<i>Symphotrichum georgianum</i>	Georgia aster	C/SNR			X				X
<i>Sylvilagus aquaticus</i>	Swamp Rabbit	S2S3							X
<i>Tofieldia glabra</i>	white false-asphodel	S1S2							X
<i>Toxolasma pullus</i>	Savannah lilliput	S1							X
<i>Tradescantia virginiana</i>	Virginia spiderwort	S1						X	
<i>Trepocarpus aethusae</i>	aethusa-like trepocarpus	S1							X
<i>Tridens carolinianus</i>	Carolina fluff grass	S2				X		X	
<i>Tridens chapmanii</i>	Chapman's redtop	S1							X
<i>Trillium pusillum</i> var. <i>pusillum</i>	least trillium	S2	X	X					

Scientific Name	Common Name	Status/ Rank	CAL	DOR	FAI	LEX	NEW	ORA	RIC
<i>Tyto alba</i>	Barn Owl	S4							<u>X</u>
<i>Ursus americanus</i>	Black Bear	S3?					<u>X</u>		<u>X</u>
<i>Urtica chamaedryoides</i>	weak nettle	S2	X						X
<i>Utricularia olivacea</i>	Piedmont bladderwort	S2						X	
<i>Utterbackia imbecilis</i>	Paper Pondshell	<u>SNR</u>						<u>X</u>	
<i>Vaccinium crassifolium</i> var. <i>sempervirens</i>	Rayner's blueberry	S1				X			X
<i>Villosa delumbis</i>	Eastern Creekshell	S4			<u>X</u>			<u>X</u>	<u>X</u>
<i>Viola pubescens</i> var. <i>leiocarpon</i>	yellow violet	S2					X		
<i>Warei cuneifolia</i>	Nuttall's warea	S1							X
<i>Xyris chapmanii</i>	Chapman's yellow-eyed grass	S1				X			
<i>Xyris stricta</i>	pineland yellow-eyed grass	S1		X					

Underlining indicates animal species.

Bold indicates species found with five miles of study corridors.

C-federal candidate species; SE-endangered statewide; ST-threatened statewide; S1-critically imperiled statewide; S2-imperiled statewide; S3-vulnerable statewide; S4-secure statewide; SH-historic occurrence statewide; SX-thought to be extinct statewide.

COUNTIES: CAL-Calhoun; DOR-Dorchester; FAI-Fairfield; LEI- Lexington; NEW-Newberry; ORA-Orangeburg; RIC-Richland.